

From: [Farrier, Brian](#)
To: [R4_SEMS_Records](#)
Subject: FW: HSI # 10951 Armstrong World Industries, Inc. (Macon Plant)
Date: Tuesday, April 9, 2019 10:39:27 AM
Attachments: [HSI # 10951 20190409.pdf](#)
[HSI # 10951 Map 20190409.pdf](#)

Please add to site file for Armstrong World Industries NPL site in Macon, GA.

From: Douglas, Traci <traci.douglas@dnr.ga.gov>
Sent: Tuesday, April 9, 2019 9:34 AM
To: Daniels, Carolyn <Carolyn.Daniels@dnr.ga.gov>
Cc: Farrier, Brian <Farrier.Brian@epa.gov>; amy.poter@dnr.ga.gov
Subject: HSI # 10951 Armstrong World Industries, Inc. (Macon Plant)

The Georgia EPD is listing a property that is part of the Armstrong World Industries Inc., Macon, Bibb County GA NPL site on the Georgia Hazardous item Inventory (HIS). A copy of the listing letter and attachments to it are provided as an attachment to this email for your files (if necessary).

Please contact Ms. Carolyn Daniels of EPD at 404-657.8646 if you have any questions regarding the attachment.

Thank you and have a nice day.

Traci Douglas

Administrative Assistant 2
DNR, Environmental Protection Division
Land Protection Branch
2 Martin Luther King Dr. SE
Suite 1054
Atlanta, GA 30334
404-657-8843
traci.douglas@dnr.ga.gov



ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

EPD Director's Office

2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

APR 2 2019

CERTIFIED MAIL

Return Receipt Requested

Armstrong World Industries, Inc.
Mr. Victor D. Grizzle, CEO
c/o Corporation Service Company, Registered Agent
40 Technology Parkway South, Suite 300
Norcross, GA 30092

RE: HSI # 10951
Armstrong World Industries, Inc. (Macon Plant)
4250 Broadway Road, Macon, Bibb County, GA
Tax Parcel P1040011412

Dear Mr. Grizzle:

The Georgia Environmental Protection Division (EPD) has listed the subject Property as a Class IV site on the Hazardous Site Inventory (HSI) pursuant to Section 391-3-19-.05(1) of the Rules for Hazardous Site Response (available at <http://epd.georgia.gov>). The listing was based on data acquired on behalf of the United States Environmental Protection Agency (EPA) during investigation and remedial actions conducted from September 29, 2009 through the present as part of the federal "Superfund" investigation and cleanup process at the Armstrong World Industries, Macon, GA National Priority List (NPL) Site, EPA ID: GAN000410033. The Class IV designation also indicates that your property has been determined as needing corrective action as provided for in Section 391-3-19-.06(6) of the Rules for Hazardous Site Response.

Enclosed is a document entitled "Introduction to the Hazardous Site Inventory" that explains how sites are listed. Also enclosed is a summary sheet of the information that resulted in this site being listed on the Hazardous Site Inventory and the memo describing how the Property was evaluated for listing on the HSI.

Since the site has been designated as needing corrective action, within 45 days of this letter, you are required by Section 12-8-97(c) of the Hazardous Site Response Act to file an affidavit stating that your property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. This affidavit is to be filed with the clerk of the Superior Court of Bibb County and recorded in the clerk's deed records pursuant to O.C.G.A. § 44-2-20.

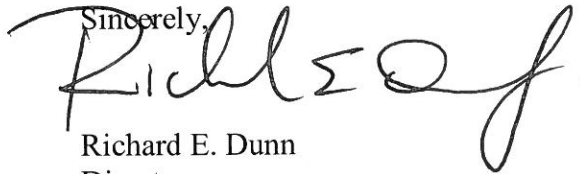
Section 12-8-97(f) of the Hazardous Site Response Act also requires that you place the following notice in any deed, mortgage, deed to secure debt, lease, rental agreement or other instrument given or caused to be given by the property owner which creates an interest in or grants a use of the property:

"This property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. Contact the property owner or the Georgia Environmental Protection Division for further information concerning this property. This notice is provided in compliance with the Georgia Hazardous Site Response Act."

HSI Listing Letter and Class IV Designation
Armstrong World Industries, Inc.
HSI #10951
Page 2 of 2

Within 30 days of recording the affidavit, please send a copy of the receipt of the recorded affidavit to the Response and Remediation Program, Georgia Environmental Protection Division, 2 Martin Luther King Jr. Drive, SE, Suite 1054, Atlanta, GA 30334. EPD will also publish a notice in the Macon Telegraph no sooner than thirty days from the date of this letter announcing that your property has been designated as needing corrective action.

EPA will continue to be the lead agency providing oversight for environmental investigations and remedial efforts, with input from the Department of Defense (DOD) Unit of the Land Protection Branch of EPD. However, if you have any questions or comments regarding the listing of this Property on the HSI, please contact Carolyn L. Daniels, P.G. of the Response and Remediation Program at 404/657-8646.

Sincerely,

Richard E. Dunn
Director

c: Brett Burris, Plant Manager, Macon Plant, Armstrong World Industries, Inc. (via US mail)
Brian Farrier, US EPA, Region 4 (via email)

Enclosures: (1) HSI Summary Sheet, (2) Introduction to the HSI, and (3) Recommendation Memo

File: HSI # 10951

GEORGIA ENVIRONMENTAL PROTECTION DIVISION
HAZARDOUS SITE INVENTORY

Site Number 10951

SITE NAME: Armstrong World Industries (Macon Plant) - NPL Site
LOCATION: 4520 Broadway Road
Macon, Bibb County, GA 31206

Latitude 32° 46' 07" N

Longitude 83° 39' 03" W

ACREAGE **PARCEL NUMBER**

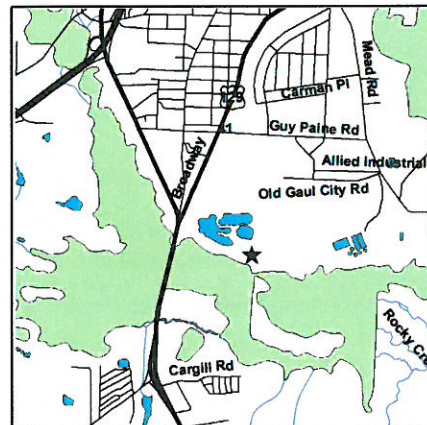
95 P1040001412

DATE LISTED

4/2/2019

LAST KNOWN PROPERTY OWNER:

Armstrong World Industries, Inc.
2500 Columbia Avenue
Lancaster, PA 17603



STATUS OF CLEANUP ACTIVITIES:

Cleanup activities are being conducted for source materials, soil, and groundwater.

CLEANUP PRIORITY: The Director has designated this site as a Class IV

GA EPD DIRECTOR'S DETERMINATION REGARDING CORRECTIVE ACTION:

The Director has determined that this site requires corrective action.

REGULATED SUBSTANCES RELEASED, AND THREATS TO HUMAN HEALTH AND ENVIRONMENT POSED BY THE RELEASE:

This site has a known release of Aroclor 1248 in soil at levels exceeding the reportable quantity. This site has unlimited access. The nearest resident individual is between 1001 and 3000 feet from the area affected by the release.

REGULATED SUBSTANCES:

Substance Name	GW	Soil	Substance Name	GW	Soil
Aroclor 1248	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Arsenic	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Barium	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Chromium	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Copper	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lead	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PCBs	<input type="checkbox"/>	<input checked="" type="checkbox"/>			

July 1, 2018
HAZARDOUS SITE INVENTORY
Environmental Protection Division
Georgia Department of Natural Resources



INTRODUCTION TO THE HAZARDOUS SITE INVENTORY

The purpose of this introduction is to help people who are using the Hazardous Site Inventory (HSI) to understand what it is, how sites get on it, what happens at those sites, how sites get off, and what kind of information is available about sites listed on the HSI. This introduction should not be construed as a legal interpretation of either the Hazardous Site Response Act, O.C.G.A. § 12-8-96, *et seq.*, as amended, or the Rules for Hazardous Site Response, Chapter 391-3-19. For more information on either the Hazardous Site Inventory or the Response and Remediation Program, please call (404) 657-8600.

Sites on the HSI are presented in several formats in this document. The COUNTY list has sites listed by county, the NAME list has sites arranged alphabetically by site name, the SITE NUMBER list has sites ordered by site number, and the SITE CLASS list has sites arranged alphabetically but grouped as either Class I, II, III, IV or V (see "What happens after a site is listed on the HSI?"). Following these lists are summaries for all sites, arranged by site number. Finally, a series of maps covering the entire state is provided which shows the location of all HSI sites by site number.

What is the Hazardous Site Inventory?

The Hazardous Site Inventory (HSI) is a list of sites in Georgia where there has been a known or suspected release of a regulated substance above a reportable quantity and which have yet to show they meet state clean-up standards found in the Rules for Hazardous Site Response. The HSI is compiled and published by the Georgia Environmental Protection Division (EPD). At least once each year, EPD will publish the HSI and send one copy to the clerk of the superior court of each county in Georgia. The clerk is required to keep the most current copy of the HSI where the deed records of the county are kept so that anyone may have ready access to it. The July 1, 2017 edition had 528 sites, and this July 1, 2018 edition adds 4 sites and removes 11 for a total of 521 sites.

How do sites get on the HSI?

When a release of a regulated substance is discovered in soil or groundwater, the property owner must determine if the Rules for Hazardous Site Response require notification to EPD about the release. If so, the property owner must submit a notification, and EPD determines if a release above a reportable quantity has occurred. EPD does this by using the Reportable Quantities Screening Method (RQSM). RQSM assigns numerical values to such factors as the toxicity, quantity, and physical state of the regulated substance released, how close the site is to nearby residents and drinking water wells, the degree to which the release is contained, the accessibility of the site, whether or not the release has resulted in exposure to nearby residents, and the presence of on-site sensitive environments. RQSM uses a mathematical equation to combine the numerical values for these factors into a single score for soil or groundwater. If this score is above a certain number for either soil or groundwater, a release exceeding a reportable quantity has occurred and the site is placed on the HSI. EPD may also place a site on the HSI if the site otherwise poses a threat to human health or the environment. A complete description of how EPD uses RQSM can be found in the document "Guidance Manual for the Reportable Quantities Screening Method" on EPD's web page at <http://epd.georgia.gov/sites/epd.georgia.gov/files/RQSMManual.pdf>.

What kinds of sites are on this edition of the HSI?

One category of sites evaluated were those where the property owner filed a release notification with EPD. Notifications are evaluated using RQSM to determine if a release exceeding a reportable quantity exists at the site. If EPD determined that a reportable quantity exists, the site was placed on the HSI. If EPD had not decided to list a site as of June 25th the site will not be listed in that year's edition of the HSI. The discovery and listing of new sites on future editions of the HSI will be an ongoing process.

Prior to the first publication of the HSI in 1994, EPD evaluated a second category of sites, those listed on the March 2, 1994 version of what is known as Wastelan. Wastelan is a report that the United States Environmental Protection Agency (USEPA) uses to summarize information contained in its main superfund database which is known as CERCLIS. The Wastelan report is a list of all sites discovered in Georgia that USEPA has been or will be investigating under the federal superfund program. If USEPA's investigation shows that a site on Wastelan is a high priority for cleanup under the federal superfund program, USEPA puts it on the National Priorities List (NPL). Sites that do not make it onto the NPL will not be cleaned up by USEPA under the federal superfund program unless they pose an imminent danger to human health and the environment; sites that pose an imminent danger may be cleaned up by USEPA through an emergency action. Only a small number of sites that appear on Wastelan will ever be placed on the NPL. In fact, of the 904 sites in Georgia on the March 2, 1994 Wastelan report, USEPA had placed only 13 on the NPL. This does not mean that these sites do not pose a threat to human health or the environment. It simply means that USEPA has determined that they do not pose enough of a threat to be considered a priority for cleanup using resources under the federal superfund program.

The HSI also identifies properties that are part of another site already listed on the HSI. A property can be sublisted as part of a site when EPD determines that a release discovered on that property is associated with the site that has already been listed on the HSI. These sublisted properties are not separately listed or tallied in this document. Sublisted properties are identified at the end of the summary for the associated primary HSI site.

How often is the HSI published?

The HSI is published at least once a year each July. EPD updates the HSI as needed to add or remove sites or to provide new information about sites as it becomes available. The listing of a site on the HSI, a change in the site's various designations on the HSI, or its removal can occur at any time throughout the year; the effective dates are not limited to the date of publication of the HSI. An electronic version is available on EPD's website at <http://epd.georgia.gov/hazardous-site-inventory>.

What happens after a site is listed on the HSI?

Sites listed on the HSI are required to meet the state's clean-up standards for hazardous sites. The clean-up standards establish levels for regulated substances that are protective of human health and the environment under specific conditions.

The sites listed on the HSI are separated into five classes, which are described as follows:

- CLASS I. Sites that have resulted in known human exposure to regulated substances, that have sources of continuing releases, or that are causing serious environmental problems are designated on the HSI as Class I sites. These sites will be EPD's highest priority for corrective action. Persons responsible for these sites are required to perform corrective action and put a notice in the deed to their property. If a responsible party fails to perform corrective action as required, EPD may use the state hazardous waste trust fund to clean up the site and then recover the cost of the cleanup from the responsible party later.
- CLASS II. For many sites listed on the HSI, further evaluation of the site must be done before EPD can decide whether corrective action is needed. These are known as Class II sites. Persons responsible for Class II sites are given an opportunity to voluntarily investigate and clean up their site and report their findings to EPD. The site is either removed from the HSI or reclassified as Class I, III, or IV based on whether it meets clean-up standards. While classified as Class II, sites are not designated as needing corrective action, so property owners do not immediately have to place notices on deeds and other property records. If a responsible party at a Class II site fails to do the required investigation, the site priority can be upgraded to Class I.
- CLASS III. Sites designated on the HSI as Class III sites are those that do not meet residential clean-up standards but do meet alternative clean-up standards. These sites are designated as needing corrective action and the property owners are required to make the same deed notices as apply to Class I sites. These sites may require continued monitoring to make sure they continue to meet the appropriate standards. They will also require further corrective action before they can be used for residential purposes. Class III sites that meet the non-residential standards (Types 3 and 4) will be removed from the HSI once the property owner has filed a deed notice. Land use at sites that meet only the Type 5 standards is restricted, and the responsible party must provide long term monitoring and maintenance of the site. Restrictions are typically described in an environmental covenant and a listing of ECs is available at <http://epd.georgia.gov/uniform-environmental-covenants>.
- CLASS IV. These are sites where corrective action is already being conducted or has been completed under other federal or state authority. These sites are presumed to be in compliance with the Type 5 clean-up standards. They are designated as needing corrective action, remain on the HSI, and the property owner is required to file deed notices. If it is ever determined that the corrective action at a Class IV site does not protect human health or the environment, then the site may be redesignated from Class IV to Class I. If it can be certified that the site meets one of the other clean-up standards, it can be reclassified and may be removed from the HSI.
- CLASS V. These are sites that have a known release that requires corrective action and are not in compliance with any of the risk reduction standards of Rule 391-3-19-.07, but corrective action is being performed in compliance with a corrective action plan approved by the Director which will bring the site into compliance with the risk reduction standards.

How does a site get off the HSI?

EPD may remove a site from the HSI if the applicable *clean-up standards are met*. Sites may also be removed from the HSI if EPD determines that *a release exceeding a reportable quantity had not occurred at the time of the site's listing* on the HSI.

What information does the HSI provide?

Each site summary provides general information about the site including the name, the location, the tax parcel ID number, the property owner, a description of the regulated substances released at the site and the possible threats to human health or the environment that the release may pose. A small map indicating the approximate location of the site is also included. The listing also indicates the status of cleanup activities at the site, the cleanup priority assigned to the site, and whether EPD's Director has determined the site needs corrective action.

The site number is assigned by EPD only as a way of tracking a site or property through name changes, ownership changes, etc. The site number has no other significance. If a site number is missing, it simply means either that information about the missing site was entered into the database and later removed before publication of the HSI, or that the site has been removed from the HSI prior to publication.

A note about the maps and parcel numbers listed in the HSI

The maps provided herein are included solely to provide the general location of the site. The maps are not intended to provide precise information and are not drawn to scale. They are derived from information from several different sources and their accuracy cannot be guaranteed. While we have attempted to verify the information submitted, all of the maps have not been field verified.

The tax parcel identification numbers are also not guaranteed to be correct. These numbers are derived from several different sources, including information submitted to EPD from the property owners or other parties responsible for the sites. The numbers are provided to help find the general location of the sites on the maps located in the office of the tax assessor or appraiser in the county in which the land lies.

The tax parcel identification number or numbers shown in the HSI may not be identical to the inventory or tax account numbers the county may assign to the property. We have simply attempted to provide the appropriate map number or designation, along with the appropriate reference numbers or markings for the property as it appears on that map. These maps and parcel numbers are generated by the individual counties and are subject to change at any time without EPD being aware of these changes.

The maps and tax parcel identification numbers are not intended to define the exact boundaries of the "site". Any property which is affected by a release exceeding a reportable quantity is part of the HSI site, regardless of whether such property is depicted on a map or listed in the HSI by tax parcel identification number.

Where can I get more information?

Additional information regarding the Response and Remediation Program and the Rules for Hazardous Site Response can be found on the Environmental Protection Division web site at <http://epd.georgia.gov/>. An electronic version of the HSI and an interactive Google Map is available at <http://epd.georgia.gov/hazardous-site-inventory>. If you would like more information about a site listed on the HSI, please contact the Response and Remediation Program at (404) 657-8600.



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Land Protection Branch

2 Martin Luther King, Jr. Drive
Suite 1054, East Tower
Atlanta, Georgia 30334
404-656-7802

January 18, 2019

MEMORANDUM

TO: Jason Metzger, Program Manager *Jm*
THROUGH: David Brownlee, Unit Coordinator *DB*
FROM: Carolyn L. Daniels, P.G., Geologist *CLD*
RE: Recommendation to List Property on Hazardous Site Inventory
Armstrong World Industries, Inc.
4250 Broadway Road, Macon, Bibb County, GA 31206
Tax Parcel P1040001412

Background: The Response and Remediation Program (RRP) of the Georgia Environmental Protection Division (EPD) has re-evaluated the subject Property parcel, owned and operated by Armstrong World Industries, Inc. (AWI), in Macon, Bibb County, Georgia for potential listing on the Georgia Hazardous Site Inventory (HSI) based on environmental analytical results acquired on behalf of the United States Environmental Protection Agency (EPA) during investigation and remedial actions conducted from September 29, 2009 through the present as part of the federal "Superfund" investigation and cleanup process. The re-evaluation for potential listing on the HSI was conducted in accordance with the Georgia Hazardous Site Response Rules (henceforth referenced as the Rules).

AWI Property Descriptions: The subject Property tax parcel (P1040001412) in Macon, Bibb County, Georgia is currently owned by AWI where it has operated an acoustic ceiling tile manufacturing plant at the property since approximately 1948. Said facility and property is enclosed within a guarded fence. The facility may have also recycled materials, including newspaper with older dye formulation, containing polychlorinated biphenyls (PCBs). The main tile manufacturing plant is located in the northern portion of the Property and the southern portion of the Property is occupied by a woodyard landfill, a wastewater treatment plant (WWTP), and a former landfill near the WWTP in the southeastern corner of the Property that was used from approximately 1948 to 1970.

A second property parcel (P1100013401), also owned by AWI, is located to the southeast and is known as the "Remote Landfill" where AWI disposed of wastes during the 1960s until 1970 at which time it was closed. Another former landfill, formerly operated by the Former Macon Naval Ordnance Plant (MNOP) is located immediately east of the AWI Remote landfill and was listed on the HSI Site #10167 for releases of vinyl chloride to groundwater and arsenic to soil. Past landfilling activities at the MNOP Landfill and AWI Remote Landfills apparently overlapped during historical operations based on past review of historical aerial photographs.

County tax maps showing the two AWI parcels are provided as Attachment I to this memo.

Initial Release Reporting and HSI Listing Evaluation (1994): The EPD received a release notification (RN) on March 21, 1994 for a release of regulated substances to soil and groundwater at the AWI Remote Landfill property pursuant to the Rules based on groundwater analytical results acquired in 1992. EPD scored the reported releases using the Reportable Quantities Scoring Method (RQSM) based on:

1. A known release of lead (toxicity of 16) to groundwater at concentrations exceeding the reportable quantity with no human exposure via drinking water suspected, and the nearest drinking water well between 0.5- and 1-mile from the area affected by the release.
2. A known release of bis(2-ethylhexyl)phthalate (toxicity of 4) of unknown quantity to soil with the nearest resident located between 1,001 and 3,000 ft of the affected area, no cover, and unlimited access.

The resultant groundwater and onsite exposure pathway scores were 26.42 and 16.67, respectively, and the AWI Remote Landfill was placed on the HSI (HSI Site #10131) in July 1994 for a release of lead to groundwater exceeding a reportable quantity. AWI conducted additional groundwater sampling and analysis related to the Remote Landfill parcel in 1994 through 1996 to demonstrate that the elevated lead, chromium, and beryllium concentrations detected in the 1992 groundwater samples were likely due to high turbidity/suspended sediment. A formal request for removal of the Remote Landfill property from the HSI was submitted by ERM-Southeast, Inc. on behalf of AWI in a letter February 8, 1996.

EPD subsequently received a supplemental RN, dated March 28, 1996, reporting the release of PCBs at the Remote Landfill property based on the collection and analysis of sludge samples collected from test pits during on-going solid waste management activities in January 1996. PCBs (specifically Aroclors) were detected at concentrations exceeding their notification concentration of 1.55 mg/kg in four composite sludge samples with the most elevated concentration being 6.65 mg/kg. The cover letter to the supplemental RN stated that a gate and fence have been installed across the site (northern portion of the landfill) entrance and that the remainder of the "site" would be fenced within two weeks, making the "site" at the Remote Landfill inaccessible. In addition, EPD received a separate RN, also dated March 28, 1996, for a release of PCBs in the WWTP Area on the subject Property. Two composite samples of sludge were collected from one wall of an excavation in the WWTP Area and were analyzed for PCBs with concentrations detected at 9.31 and 1.36 mg/kg, which exceeded the applicable NC for total PCBs.

Based on a review of the associated HSI file, it appears that EPD evaluated the March 28, 1996 AWI Supplemental Remote Landfill RN and new WWTP RN together as follows:

1. The onsite pathway RQSM was not re-evaluated for the new detection of PCBs as it was deemed inaccessible to the public and would result in a score of 0. Therefore, the previous onsite pathway score, 16.7, based on a release of bis (2-ethylhexyl) phthalate to soil at the Remote Landfill, that did not exceed the threshold of 20, was applied as being representative for both AWI properties.

2. The groundwater exposure pathway was rescored using the more recently acquired groundwater analytical results for samples collected using “quiescent” sampling techniques that indicated detections of regulated substances did not exceed their media target concentrations for groundwater as listed in Appendix III of the Rules. Based on said results, a groundwater pathway score of 5.2 was derived, which did not exceed its pathway threshold of 10.

As the re-evaluated RQSM scores did not exceed their respective pathway threshold levels, the Remote Landfill property was removed from the HSI in 1996 and the subject Property was never listed individually.

Federal Investigation/Remedial Actions: In 1996 and 1998, the U.S. Army Corps of Engineers (USACE) sampled and analyzed fish from Rocky Creek, the receptor for surface water drainage from the subject Property, and determined that they contained elevated levels of PCBs. Based on those results, the United States Environmental Protection Agency (USEPA) conducted multiple additional soil, sediment, surface water, and groundwater investigations [including a Site Investigation (SI) primarily conducted on the subject AWI Property and adjacent drainage ditches and an Expanded SI that included the AWI Remote Landfill, the former landfill used by the Former Macon Naval Ordnance Plant (FMNOL)¹, and associated drainage ditches, and Rocky Creek, etc. in 2009]. Based on the results of those investigations, the subject Property, the AWI Remote Landfill and the FMNOL were placed on the Federal Superfund National Priorities List (NPL) as a single site referred to as Armstrong World Industries, Macon, GA NPL Site, EPA ID: GAN000410033. Ms. Amy Potter of EPD’s Hazardous Waste Department of Defense (DOD) Unit is the EPD lead and point of contact (POC) for the referenced NPL site.

EPA designated two Operating Units (OUs) at the referenced NPL site, to be investigated and remediated separately, as follows:

1. Operable Unit #1 (OU-1) as designated by EPA is the WWTP Landfill on the subject Property where soil, and possibly groundwater, have been found to be impacted by polychlorinated biphenyls (PCBs). The Final Site Investigation Report dated September 2009 indicates that the highest concentrations of PCB-1248, -1254, and -1260 (Aroclors 1248, 1254, and 1260) were detected in surficial and subsurface soil at this OU (not yet designated as an OU at the time). Remedial actions were conducted at OU-1 from approximately July 1, 2015 through November 28, 2016. Said actions consisted of the installation of an engineered cap/liner system on the landfill, a mechanically stabilized earthen barrier wall, and replacement of a drainage swale. The remedial system was designed to prevent subsurface water infiltration and a meadow was planted on top as a habitat for butterflies, bees, and other pollinators. Water basins and surface drainage systems have also been modified and remedial actions conducted to date have been confined to those areas of the WWTP and associated landfill within the fenced Property

¹ The FMNOL was listed on the HSI on June 29, 1994 as HSI Site #10167 based on an RQSM Groundwater Exposure Pathway score of 26.42 for a release of vinyl chloride. The former Macon Naval Ordnance Plant (MNOP) itself was located to the east of the AWI Plant in the current Allied Industrial Park and is listed on the NPL and HSI as its own site (HSI #10308).

boundaries. A 5-year review, including sampling and analysis of groundwater beneath the subject Property, will be conducted by EPA in approximately three to four years according to Ms. Potter. The EPA determined that AWI is the sole responsible party for OU-1.

2. Operable Unit #2 (OU-2) as designated by EPA includes impacted areas immediately east/southeast of the subject Property, the boundaries of the AWI Remote Landfill/FMNOL and surface water drainage channels and streams (including Rocky Creek) impacted by past operations by AWI and at the former FMNOL. Remedial actions have not been conducted for OU-2 as of the date of this memo. As of February 2018, the NPL site is currently listed as "Human Exposure Not Under Control" because workers and trespassers could be exposed to contaminated soil, fish, and sediment from Rocky Creek. Contaminants of concern include PCBs in sediment and fish and trichloroethene (TCE) in groundwater. The public has been informed not to eat fish from Rocky Creek (downstream/downgradient of the subject Property, the AWI Remote Landfill, and the FMNOL) through the public notification process and signs posted at the creek. However, EPA has noted that people have been observed trespassing on OU-2 to fish in Rocky Creek. EPA is currently negotiating an agreement with seven identified responsible parties (including AWI) to conduct a Remedial Investigation and Feasibility Study (RI/FS).

Current Evaluation for HSI Listing: As additional environmental sampling has been conducted since the last RQSM scoring of the Property in 1996 and the Property has since been included on the NPL, I conducted a limited review of soil, sediment, surface water, and groundwater analytical results obtained by EPA since 1996 to determine if site conditions had changed that could affect its non-HSI status. Although remedial actions have taken place within the fenced boundaries of the subject Property, Aroclor 1248 (PCB-1248) has been detected at a concentration of 3.1 mg/kg, which is greater than the applicable NC of 1.55 mg/kg, in a sediment sample (designated as DD501 collected on behalf of EPA) outside the AWI fenced area. This sample was collected on May 19, 2009 in a surface drainage ditch near a culvert that passes under Central of Georgia railroad tracks immediately downstream of the former discharge point from the AWI WWTP (see Attachment II). According to Ms. Potter, the sediments represented by the DD501 sample have not been removed or otherwise remediated to date and said location is accessible to trespassers on foot.

Groundwater samples have been collected from permanent monitoring wells installed in the OU-1 area and from temporary monitoring wells installed within the extent of the landfill prior to conducting remedial actions. PCBs were not detected in groundwater samples collected from the permanent monitoring wells and only Aroclor 1016 was detected at an elevated concentration in one of the temporary monitoring wells (designated as TW-02) in April 2011. A filtered groundwater sample was collected from TW-02 for PCB analysis in May 2011 and PCBs were not detected in said sample. Groundwater flow direction based on groundwater elevations measured in the permanent monitoring wells screened in the surficial aquifer is to the south/southeast. As Aroclor 1248 has a toxicity value of 16, EPD conducted a limited "windshield" well reconnaissance survey between 2 and 3 miles to the southeast of the subject Property on October 9, 2019 to determine if groundwater downgradient of the Property might be used as a drinking water source. EPD personnel limited the well survey from 2 to 3 miles downgradient (southeast) of the WWTP landfill as the majority of the properties located between

the southern boundary of the subject Property and 2 miles downgradient consist of vacant land and designated wetlands. Evidence of the presence of multiple potential drinking water wells were observed by EPD (as described in the attached January 18, 2019 Trip Report).

EPD updated its water well database to include the wells of unknown use observed during the above-referenced limited windshield survey and a map showing known water wells within three miles of the subject property was printed and attached to this recommendation. The updated well map indicates the presence of multiple wells within 3-miles of the Property; however, none of the drinking water wells known to be in operation within 2-miles of the Property are located directly downgradient. The database indicates the presence of up to four permitted public water supply wells supplying residential mobile home parks between 1- and 2-miles of the Property to the southwest (cross-gradient) of the Property.

Nearest Residential Property: EPD personnel was unable to visually confirm the nearest residential property on October 9, 2018 due to time constraints. However, a review of aerial photographs and online property records maintained by the Macon-Bibb County Tax Assessor's Office indicates the nearest residential property is located approximately 2,335 ft to the west at 4671 Broadway and is owned by a Phyllis Lindsey Daniel. In addition, it should be noted that trespassers have been observed fishing in Rocky Creek (see references above) to the south/southeast.

Sensitive Environments: I reviewed the online wetlands mapper/and National Wetlands Inventory (NWI) Maps maintained by the United States Geological Survey (USGS) and United States Fish and Wildlife Service for the subject Property and area immediately surrounding it. The impacted drainage ditch drains directly into a mapped wetlands, a Palustrine, forested, broad-leaved, deciduous, temporarily flooded (PF01A) wetlands in the AWI remote landfill area approximately 595 feet southeast of above-referenced DD501 sampling location. Sediment and fish sampling in the wetlands on behalf of the ACOE and the EPA indicate that said wetlands have been impacted. A copy of the online NWI wetlands map showing the WWTP Landfill Area on the Property and the downstream wetlands is provided as Attachment III.

RQSM Scoring: Based on the results of the environmental investigations and remedial efforts subsequent to the 1996 non-HSI listing decision for the Property and EPD's most recent limited water use survey, I re-scored the two exposure pathways at the Property as follows:

On-Site Exposure Pathway: The on-site exposure pathway was evaluated based on a confirmed release of a PCB-containing substance, Aroclor-1248 (PCB-1248), to soil/sediment at a concentration exceeding the applicable notification concentration (NC) of 1.55 mg/kg. Aroclor-1248 has a toxicity value of 16, access to the contamination is unlimited (near the surface and outside the boundary fence of the plant, which can be accessed by trespassers on foot), and containment is poor. The quantity of the release is unknown and the nearest residential property from the impacted area outside the fence is located between 1,001 and 3,000 ft. to the west. Based on the direct connection between the impacted drainage ditch and confirmed impacts to the wetlands to the south/southeast, I scored the site with an on-site sensitive environment. The resulting on-site exposure pathway score is **46.3**, which is greater than the applicable threshold value of 20.

Groundwater Pathway: To be conservative, the groundwater pathway was evaluated on the basis of a suspected release of Aroclor 1248 due to the limited recent groundwater analytical results available for the subject Property. Aroclor 1248 has a toxicity value of 16. The quantity of the release is not known. The presence of DNAPL is not suspected beneath the subject Property. However: 1) evidence of private water wells between 2- and 3- miles south/southeast of the WWTP at the subject Property have been observed by EPD personnel, and a confirmed public drinking water supply well is located between 1- and 2-miles to the south, all hydraulically downgradient of the Property. Human exposure is not suspected at this time. The resulting groundwater pathway score is **7.6**, which is less than the applicable threshold value of 10.

Recommendation(s): As the onsite exposure pathway score exceeds its threshold limit of 20, I recommend that Armstrong World Industries, Inc. (Tax Parcel P1040001412) be listed on the Georgia Hazardous Site Inventory.

FILE: HSI 10951, Armstrong World Industries, Inc., Macon, Bibb County, GA

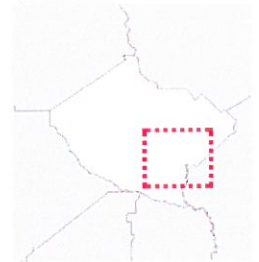
S:\ARDRIVE\ DANIELSC\SITES\HSRA\#10951 Armstrong World Industries Inc. Macon Plant\Listing Package\RRP Memo.doc



Property Tax Map - Armstrong World Industries Inc. Properties



Overview



Legend

- ☐ Parcels
- USA Major Highways
 - Limited Access
 - Highway
 - Major Road
 - Local Road
 - Minor Road
 - Other Road
 - Ramp
 - Ferry
 - Pedestrian Way

Parcel ID	P1040001412	Owner	ARMSTRONG WORLD IND INC	Last 2 Sales			
Class Code	Industrial		% RYAN LLC	Date	Price	Reason	Qual
Taxing District	MACON-BIBB		13155 NOEL RD STE 100	1/29/1946	0	CP	U
	MACON-BIBB		DALLAS TX 75240	n/a	0	n/a	n/a
Acres	95	Physical Address	4520 BROADWAY				
		Assessed Value	Value \$8297812				

(Note: Not to be used on legal documents)

Date created: 1/16/2019

Last Data Uploaded: 1/16/2019 12:52:26 AM

Developed by Schneider
GEOSPATIAL

**FINAL
EXPANDED SITE INSPECTION REPORT
FORMER MACON NAVAL ORDNANCE LANDFILL
MACON, BIBB COUNTY, GEORGIA
U.S. EPA ID NO. GAD0000102178**

Revision 0

**Prepared for
U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4
Atlanta, Georgia 30303**



Contract No.	:	EP-W-05-054
TDD No.	:	TTEMI-05-003-0022
Date Prepared	:	September 29, 2009
EPA Task Monitor	:	Jennifer Wendel
Telephone No.	:	(404) 562-8799
Prepared by	:	Tetra Tech EM Inc.
START Project Manager	:	Sandra Harrigan
Telephone No.	:	(678) 775-3088

Prepared by

Reviewed by

Approved by

Quinn Kelley
Quinn Kelley
START III Site Manager

Shanna Davis
Shanna Davis
START III Technical Reviewer

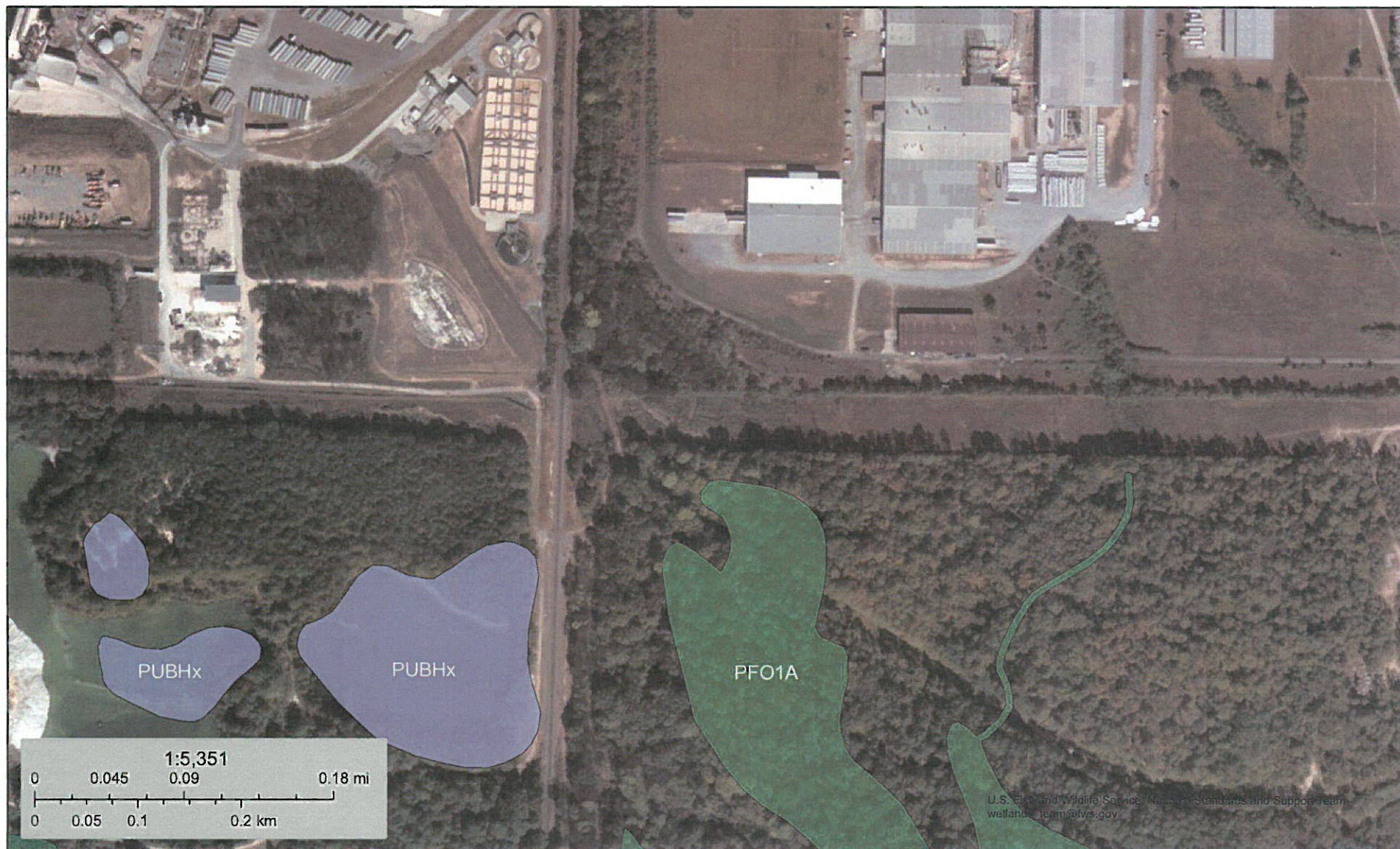
Andrew F. Johnson
Andrew F. Johnson
START III Program Manager



U.S. Fish and Wildlife Service
National Wetlands Inventory

Attachment III

NWI Map for Area of Subject Property



January 22, 2019

Wetlands

 Estuarine and Marine Deepwater	 Freshwater Emergent Wetland	 Lake
 Estuarine and Marine Wetland	 Freshwater Forested/Shrub Wetland	 Other
	 Freshwater Pond	 Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

**LAND PROTECTION BRANCH
RESPONSE AND REMEDIATION PROGRAM
REPORTABLE QUANTITIES SCREENING METHOD**

SCORED BY:	Carolyn L. Daniels, P.G.	DATE:	1/18/2019
GROUNDWATER PATHWAY SCORE:	7.6	CLEANUP HISTORY:	
		[] NO CLEANUP INITIATED AT SITE	
ON-SITE PATHWAY SCORE:	46.3	[X] SOME CLEANUP UNDERWAY AT SITE	
		[] CLEANUP HAS BEEN COMPLETED	

EPA ID NUMBER:	GAN000410033				
SITE OR FACILITY NAME:	Armstrong World Industries, Inc. Macon Plant				
SITE STREET ADDRESS:	4520 Broadway				
SITE CITY:	Macon	SITE COUNTY:	Bibb	ZIP CODE:	

IF SITE SCORES ABOVE THE THRESHOLD VALUE FOR EITHER PATHWAY, PROVIDE THE FOLLOWING INFORMATION. ALL REGULATED SUBSTANCES DETECTED AT THE SITE SHOULD ALSO BE LISTED ON PAGE 2, EXCLUDING THOSE USED TO SCORE THE SITE.

PROPERTY OWNER:	Armstrong World Industries, Inc.; Victor D. Grizzle, CEO				
MAILING ADDRESS:	2500 Columbia Avenue				
CITY:	Lancaster	STATE:	PA	ZIP CODE:	17603
TELEPHONE NUMBER:	(717) 397-0611				
SITE CONTACT PERSON:	Unknown		TITLE:	Registered Agent	
COMPANY NAME:	Corporation Service Company (GA Corporation Agent for Armstrong World Industries, Inc.)				
MAILING ADDRESS:	40 Technology Parkway South, Suite 300				
CITY:	Norcross	STATE:	GA	ZIP CODE:	30092
TELEPHONE NUMBER:	1-866-403-5272				
SITE OWNER/OPERATOR:	Brett Burris, Manager				
COMPANY NAME:	Armstrong World Industries, Inc.				
MAILING ADDRESS:	PO Box 4288, 4520 Broadway				
CITY:	Macon	STATE:	GA	ZIP CODE:	31206-5068
TELEPHONE NUMBER:	(478) 788-4811				

LIST OF OTHER REGULATED SUBSTANCES AT THE SITE

THIS TABLE SHOULD ONLY BE COMPLETED IF THE SITE IS BEING LISTED ON THE HSI. ALL REGULATED SUBSTANCES AT THE SITE SHOULD BE PRESENTED ON THIS TABLE, EXCEPT THOSE USED TO SCORE THE SITE. NOTE THE CAS NUMBER FOR THE REGULATED SUBSTANCE, AND WHETHER THE SUBSTANCE IS PRESENT IN SOIL AND/OR GROUNDWATER.

CAS NUMBER	REGULATED SUBSTANCE	IN GW?	IN SOIL?
1336363	PCBs		X
7440382	Arsenic		X
7110393	Barium		X
7440473	Chromium (total)	X	X
7439921	Lead		X
7439921	Copper		X

GROUNDWATER PATHWAY

HAS A RELEASE TO GROUNDWATER OCCURRED? Known (45) Suspected (10) Potential Future (5) (If 45, go to D)		SCORE	
		A.	10
SUSCEPTIBILITY RATING: Higher (6) Average (3) Lower (0)		1B.	3
PHYSICAL STATE: Stable Solid (0) Unstable Solid (1) Powder/Ash (2) Liquid/Gas/Sludge (3)		2B.	3
CONTAINMENT: Very Good (0) Good (1) Fair (2) Poor (3)		C.	3
REGULATED SUBSTANCE:	Aroclor 1248 (PCB 1248)	1D.	
TOXICITY: None (1) Low (1) (2) (4) (8) (16)		2D.	16
QUANTITY: (1) (2) (3) (4) (5) (6) (7) (8)		3D.	4
EXPOSURE TO GROUNDWATER RELEASE: (choose only one)		1E.	2
Known release \geq MCL and know human exposure \geq MCL (25) Known release \geq MCL and suspected human exposure (20) Known release, no MCL exists, and know human exposure (18) Known release \geq MCL, and known human exposure $<$ MCL (15) Known release, no MCL exists, and human exposure is suspected (12) Suspected release and human exposure is suspected (8) Known release \geq MCL, but no human exposure is suspected (4) Known release, no MCL exists, and no human exposure is suspected (3) Suspected release, but no human exposure is suspected (2) Potential future release (1) Known release less than MCL (0)			
DISTANCE TO WELL OR SPRING: <1/2 mile (16) 1/2 - 1 mile (9) 1 - 2 miles (4) 2 - 3 miles (1) > 3 miles (0)		2E.	4
GROUNDWATER PATHWAY SCORE:		7.6	

$$S_{gw} = M \times (2D + 3D) \times (1E + 2E) / 442.8$$

$$\text{where } M = A + [(1B + 2B) \times C]$$

If A = 45, then M = 45

If 2D is unknown, then 2D = 4

If 3D is unknown, then 3D = 4

If 1E includes known or suspected human exposure, then 1E + 2E = 16

If 1E = 0, then 2E = 1

Note: The denominator of 442.8 normalizes the groundwater score to a value between 0 and 100.

ON-SITE EXPOSURE PATHWAY

ACCESS TO THE SITE: Inaccessible (0) Limited Access (2) Unlimited Access (4)		A.	4
HAS THERE BEEN A RELEASE? Yes (25) Suspected (15) No (0)		B.	25
CONTAINMENT: Soil Releases (very good to poor) (0) (1) (2) (3) (4) (5) Aboveground Releases: (0) (1) (2) (3)		C.	5
REGULATED SUBSTANCE: Aroclor 1248 (PCB 1248)		1D.	
TOXICITY: None (1) Low (1) (2) (4) (8) (16)		2D.	16
QUANTITY: (1) (2) (3) (4) (5) (6) (7) (8)		3D.	4
DISTANCE TO NEAREST RESIDENT INDIVIDUAL: <300' (8) 301-1000' (6) 1001-3000' (4) 3001-5280' (2) > 1 Mile (1)		1E.	4
IS THERE AN ON-SITE SENSITIVE ENVIRONMENT? Yes (1) No (0)		2E.	1
ON-SITE EXPOSURE PATHWAY SCORE:		46.3	

$$So = A \times (B + C) \times (2D + 3D) \times (1E + 2E) / 259.2$$

If A or B = 0, then So = 0

If 2D is unknown, then 2D = 4

If 3D is unknown, then 3D = 4

Note: The denominator of 259.2 normalizes the score to a value between 0 and 100

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GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Land Protection Branch

2 Martin Luther King, Jr. Drive
Suite 1054, East Tower
Atlanta, Georgia 30334
404-657-8600

TRIP REPORT **(Limited Well Survey, Re-Evaluation of Non-HSI Status)**

SITE NAME AND LOCATION: Armstrong World Industries, Inc. Macon Plant
4250 Broadway, Macon, Bibb County, GA 31206
Tax Parcel P1040001412

TRIP BY: Carolyn L. Daniels, P.G. and Nicole Vermillion,
Geologists, Georgia Environmental Protection Division
(EPD), Land Protection Branch (LPB), Response and
Remediation Program (RRP)

DATE OF TRIP: October 9, 2018

DATE OF REPORT: January 18, 2019

OFFICIALS CONTACTED: None

Well Survey: EPD personnel Ms. Nicole Vermillion and Carolyn L. Daniels, P.G. of the Response and Remediation Program (RRP), conducted a limited “windshield” well reconnaissance survey between 2 and 3 miles to the southeast of the subject Property while in Macon on October 9, 2018 (after completing a site inspection at another property) to determine if groundwater downgradient of the subject Property might be used as a drinking water source. Evidence of the presence of potential drinking water wells were observed by EPD (see attached Photographs), including the following addresses:

- 1845 and 1875 Champion Court: This is a dirt road with no visual evidence of available public water lines or hydrants and mainly mobile homes on the occupied properties. More wells may exist on the road,
- 1055, 1103, and 1155 East Allen Road: This is a dirt road with no visual evidence of available public water lines or hydrants and more wells may exist that could not be seen from the road,
- 1271 North Allen Road: This is a dirt road with no visual evidence of available public water lines or hydrants and more wells may exist that could not be seen from the road, and
- 6631, 6570, 6575, and 6665 Smithfield Road: This is a paved road with long dirt or gravel driveways/private roads along where potential wells may exist that could not be observed from the paved road. A limited number of fire hydrants were observed along paved portions of the road, indicating public water service may be available; however, to date, EPD personnel have been unable to verify if the residences at the above addresses have been connected to public water.

RECOMMENDATIONS: Based on observations made during the subject well survey, re-evaluation of the non-HSI status of the subject Property should assume domestic use of groundwater within 2 to 3 miles hydraulically downgradient.

PHOTOGRAPHS: 9

ATTACHMENT:

- Photographic Log

NUMBER OF SAMPLES COLLECTED: None

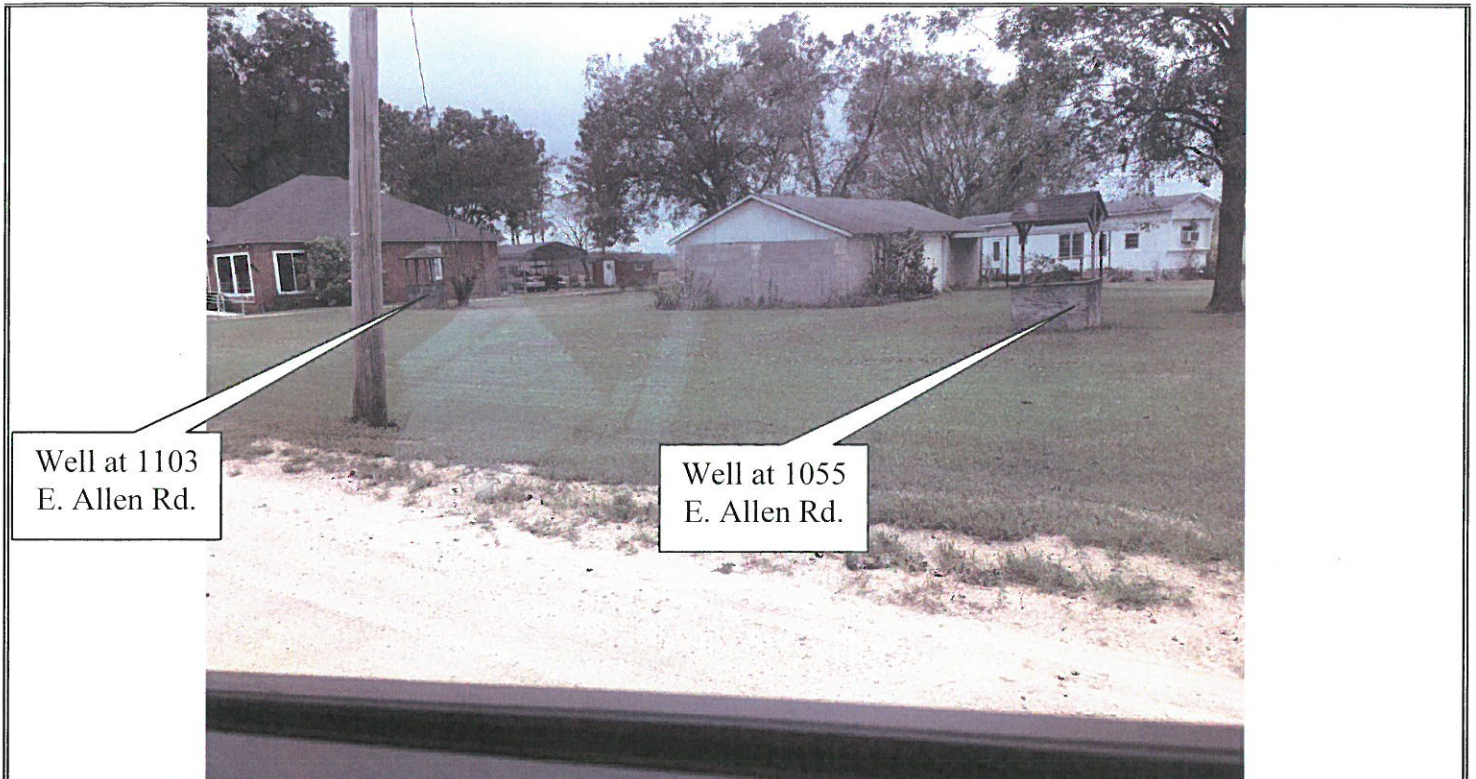
REVIEWED BY:



David Brownlee, Unit Coordinator

FILE: HSI ()

PHOTOGRAPHS



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

Photograph 1 of 9

County: Bibb

Date: 10/09/2018

Photographer: Carolyn L. Daniels, Response and Remediation Program

Description: View looking northwest of two wells of unknown use at 1103 and 1055 East Allen Road from East Allen Road (a dirt road with no visible signs of public water lines). According to online Macon-Bibb County tax assessor records the property at 1103 East Allen Road is owned and occupied by Charles E. and Julia M. Dent and the property at 1055 East Allen Road is owned and occupied by Daryl E. Dent.



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

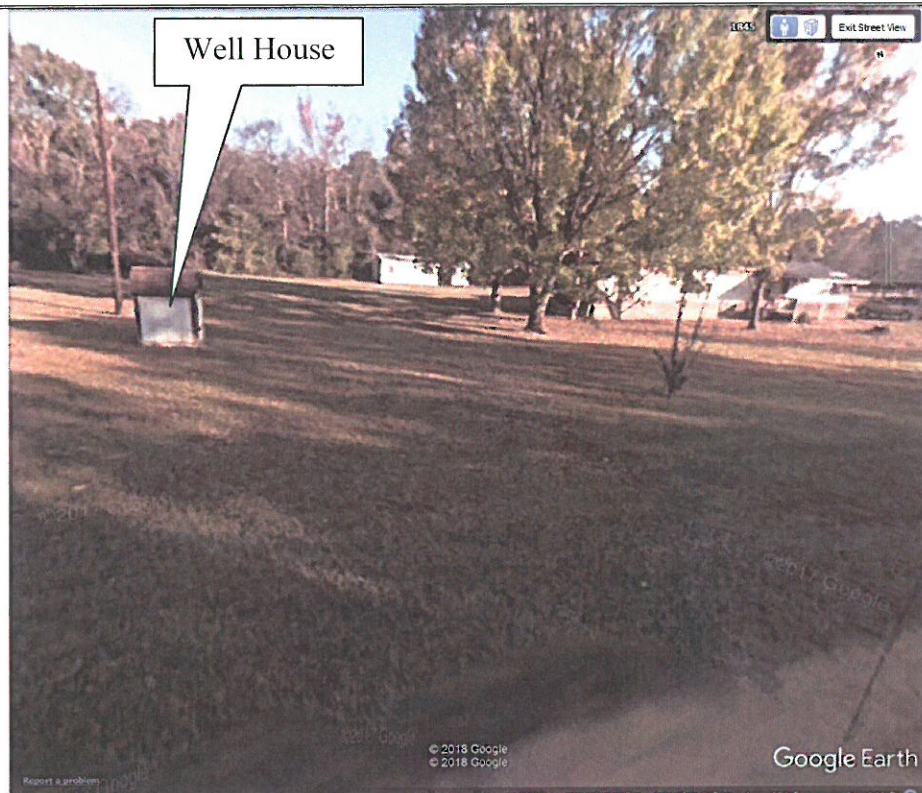
Photograph 2 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

Source: Google Earth, Downloaded 01/17/2019

Description: View looking southwest of a potential well of unknown use at 1150 East Allen Road from East Allen Road (a dirt road with no visible signs of public water lines). According to online Macon-Bibb County tax assessor records the property is owned and occupied by Joyce E. Pergerson.



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

Photograph 3 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

Source: Google Earth, Downloaded 10/10/2018

Description: View looking northeast of a well of unknown use at 1845 Champion Court from Champion Court (a dirt road with no visible signs of public water lines). According to online Macon-Bibb County tax assessor records the property is owned and occupied by Gary Wayne Duffey.



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

Photograph 4 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

Source: Google Earth, Downloaded 10/10/2018

Description: View looking north/northeast of a well of unknown use at 1875 Champion Court from Champion Court (a dirt road with no visible signs of public water lines). According to online Macon-Bibb County tax assessor records the property is owned by Dennis A.-Rajeans Yeske (mailing address 6555 Champion Rd, Macon, GA).



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

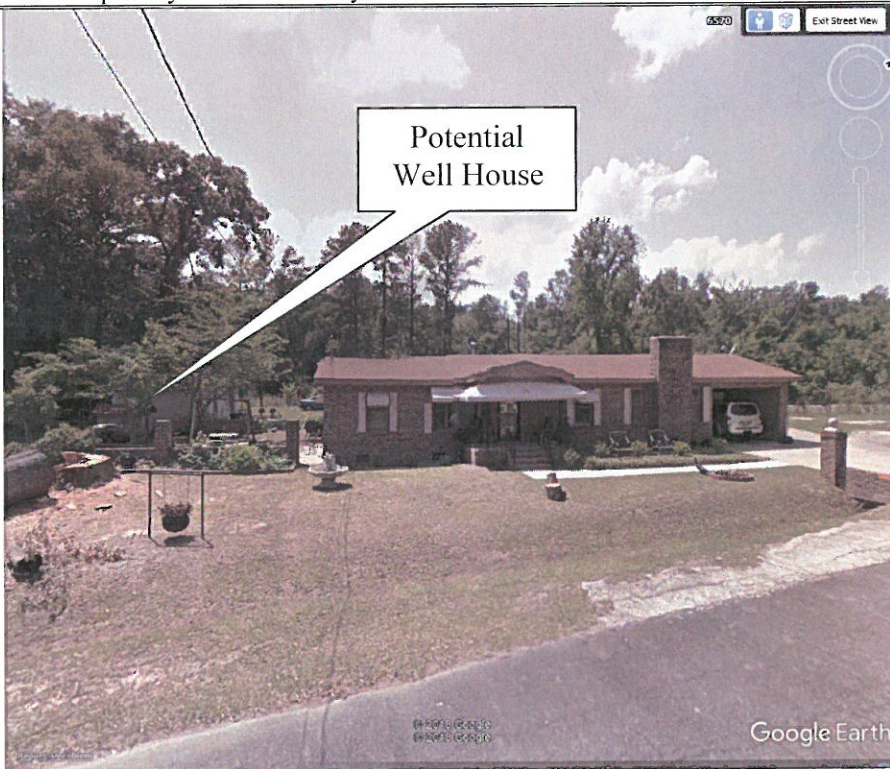
Photograph 5 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

Source: Google Earth, Downloaded 10/10/2018

Description: View looking east at a well house of unknown use at 6665 Smithfield Road. Limited number of fire hydrants on paved portion of road indicates public water may be available in area. According to online Macon-Bibb County tax assessor records the property is owned and occupied by Lillie Ruth Gray.



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

Photograph 6 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

Source: Google Earth, Downloaded 10/10/2018

Description: View looking west/southwest at a potential well house of unknown use at 6570 Smithfield Road. Limited number of fire hydrants on paved portion of road indicates public water may be available in area. According to online Macon-Bibb County tax assessor records the property is owned and occupied by Lawrence E. and Estelle Mims.



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

Photograph 7 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

Source: Google Earth, Downloaded 10/10/2018

Description: View, looking southwest, of hand pump in yard of residence shown in Photograph #6.



Site Name: Armstrong World Industries, Inc. Macon Plant
4520 Broadway, Macon, GA

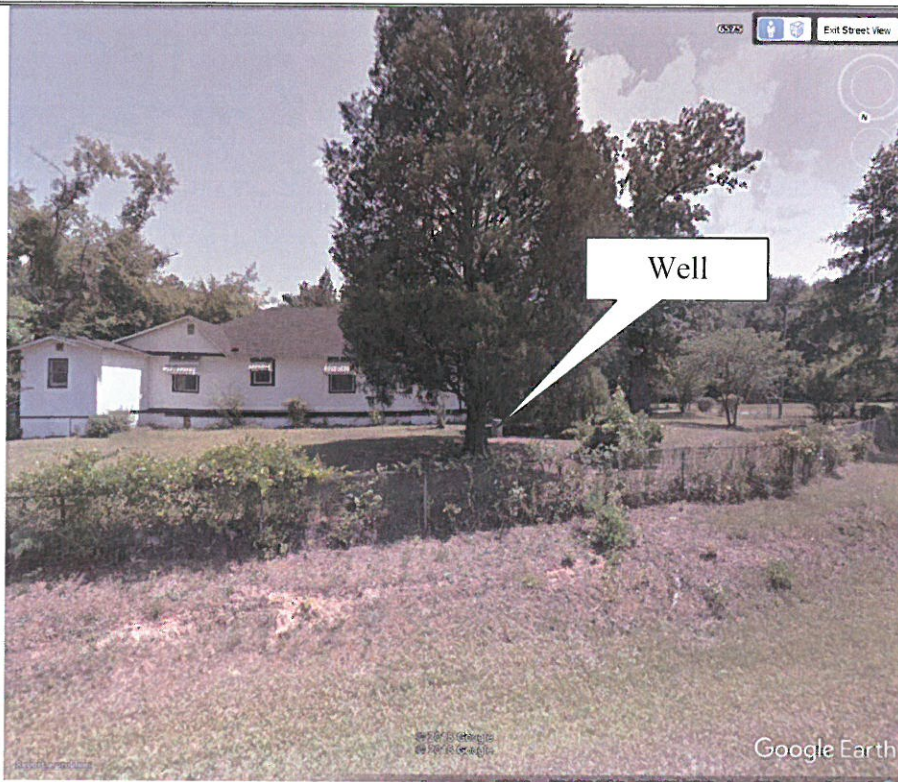
Photograph 8 of 9

County: Bibb

Imagery Date: 11/2007 (observed by EPD on 10/09/2018)

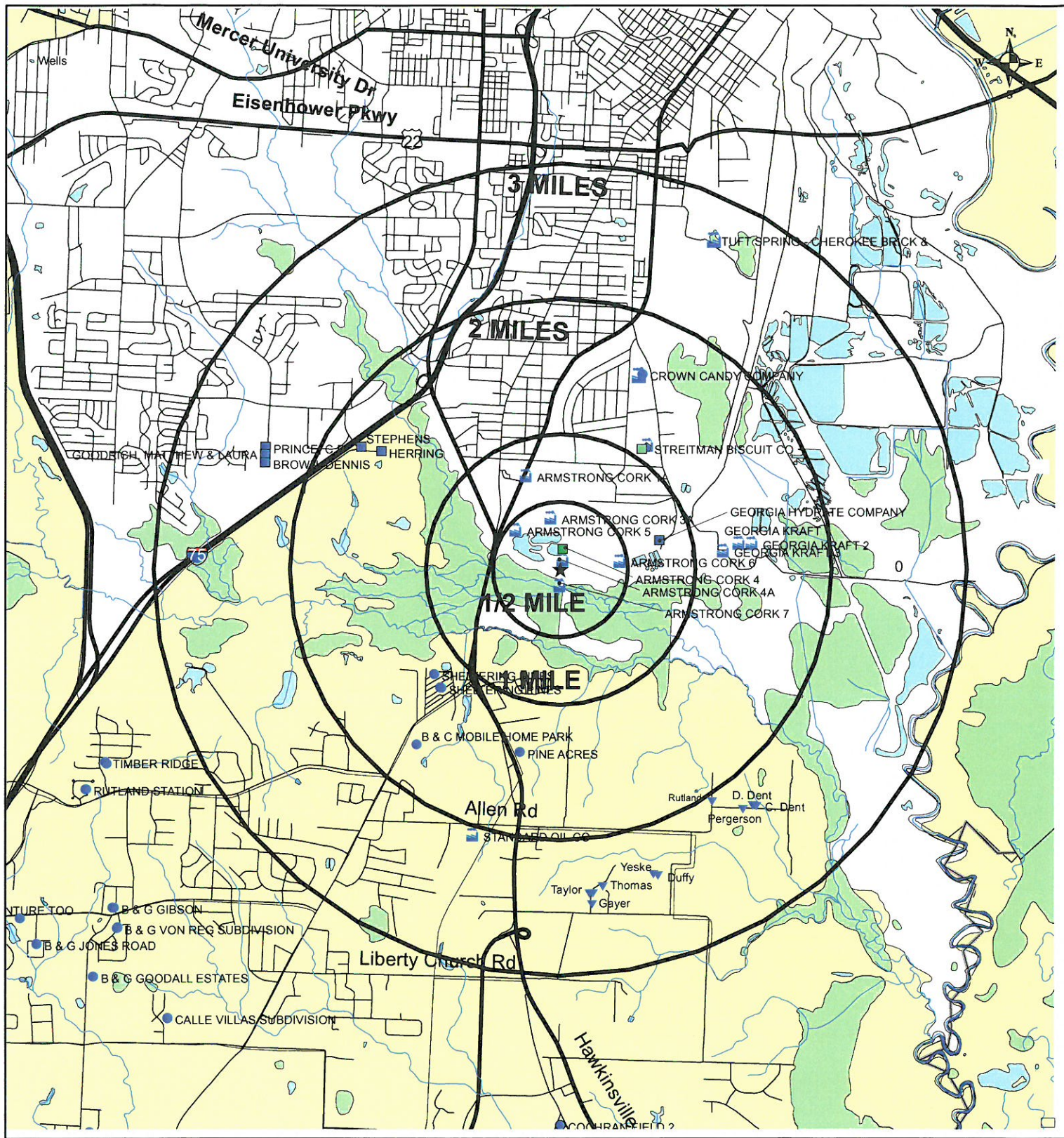
Source: Google Earth, Downloaded 10/10/2018

Description: View looking west/southwest at a potential well house of unknown use at 6631 Smithfield Road. Limited number of fire hydrants on paved portion of road indicates public water may be available in area. According to online Macon-Bibb County tax assessor records the property is owned by Willie T. Taylor.



Site Name: Armstrong World Industries, Inc. Macon Plant 4520 Broadway, Macon, GA	Photograph 9 of 9	County: Bibb
Imagery Date: 11/2007 (observed by EPD on 10/09/2018)	Source: Google Earth, Downloaded 10/10/2018	
Description: View looking south/southeast at a potential well of unknown use at 6575 Smithfield Road. Limited number of fire hydrants on paved portion of road indicates public water may be available in area. According to online Macon-Bibb County tax assessor records the property is owned by Gertrude Thomas.		

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Armstrong World Industries Inc.
4520 Broadway Street
Macon, Bibb County

Scale: 1 inch = 1 mile
32 46 06 83 38' 59





Sources: Wells from USGS GWSI (1999); EPD WRB Non-Municipal Wells (1997); EPD HWMB field surveys (2004); Surface Water Intakes from EPD GSB DR96-27(1996); Roads, Rivers, Wetlands from Georgia DOT (2000); Census data from U.S. Bureau of Census (1990)

Sample Stations

Sample Stations

-  Surface & Subsurface Soil Sample
-  Sediment Sample
-  Surface Water & Sediment Sample
-  Ground Water Sample

Background Sample Stations

-  Surface & Subsurface Soil Sample
-  Sediment Sample
-  Surface Water & Sediment Sample
-  Ground Water Sample

ATTACHMENT III: Portion of Figure 3, *Sampling Locations and Selected Analytical Results*, Final Expanded Site Investigation (SI) Report, Former Macon Naval Ordnance Landfill, Macon, Bibb County, Georgia, U.S. EPA ID No. GAD000012178. Revision 0 (Tetra Tech, September 29, 2009)